

# Practical Animal Hygiene

(A) aim: **Air sampling for bacteriological examination**

## **(1) Settle plate method :**

Method: Allowing dust carrying m.o to settle on selective media acc. to type of m.o for 5-10 min  
→ collected & incubation at 37c/24 hrs

Result:

No. of bacteria / diameter of petridish / time (5 min.)

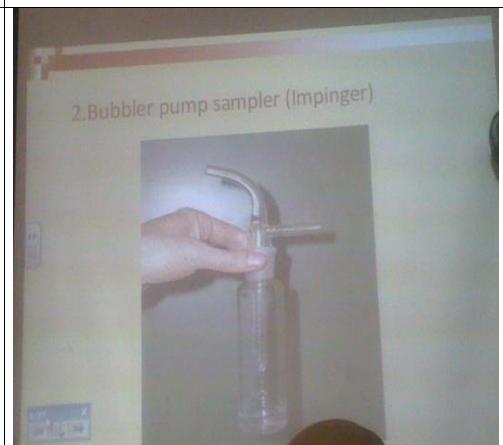


## **(2) Bubble pump sampler (impinger):**

Method: known volume of air → moisted by glass beads by 50ml of nutrient broth → take 2ml → on 2 plates

Result:

No. of bacteria / amount of broth (50ml)



## **(3) slit sampler method :**

- Electrical method

-pumping known volume of air through slit electrical opening → petridish containing selective media → rotating on axial stage  
→incubation at 37c /24hrs.

Result:

No. of bacteria / volume of air



#### **(4) Anderson Air Sampler :**

-Device formed from 6 stages →  
perforated (400 holes) → underneath  
petridish contain selective media  
-passing known volume of air →  
incubate at 37c / 24 hrs

Result :

No. of colonies / volume of air

6 stages



single stage



**(B.) aim : Determination of ambient temp :**

#### **(1) Ordinary mercury thermometer:**

Direct reading of temp. at the moment



#### **(2) Minimum & maximum thermometer (U-shape):**

-one branch contain alcohol giving the  
minimal temp. & other contain  
mercury giving the maximum temp.

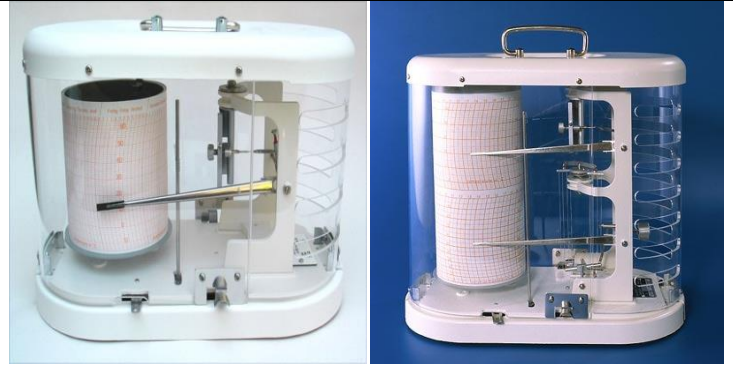
-during the whole day



### **(3) clock work thermometer (thermograph):**

-double strips of special metals attached to pointer → rests on drum work by clock or time.

-Temp. measured once daily or once weak.



## **Ⓒ. aim : determination of water vapour (humidity)**

### **(1) Hair Hygrometer**

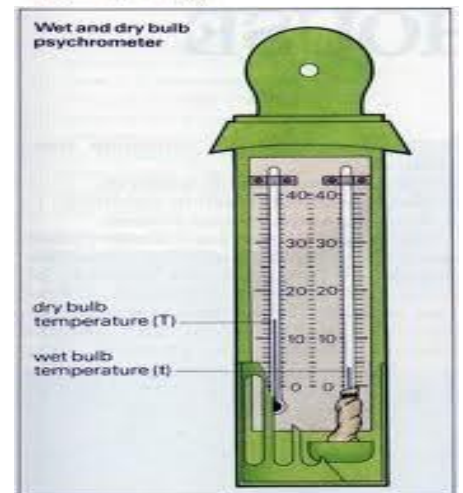
-depend on hygroscopic material of human hair

-adjusted to zero , if the air is dry → shrinkage of human hair due to evaporation of human hair bundles.



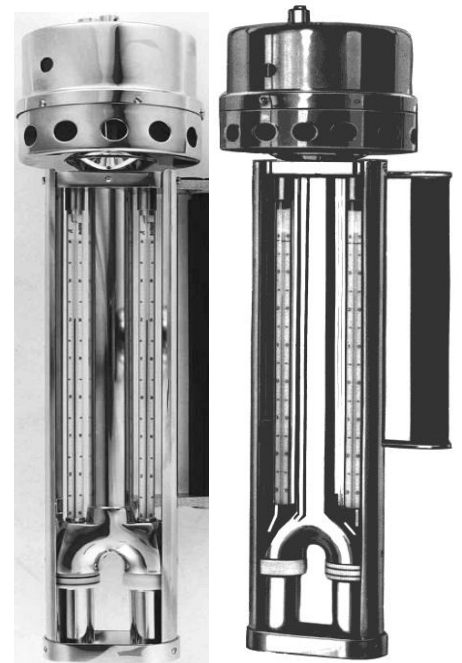
## **(2) Dry & Wet bulb Hygrometer (ordinary psychrometer)**

- Dry : ordinary thermometer
- Wet : ordinary one soaked in water vessel , its reading less than dry one
- Measuring of humidity by psychrometric difference



## **(3) Dry & wet bulb Hygrometer (spiral psychrometer)**

- Dry : ordinary thermometer
- Wet : ordinary one soaked in water vessel , its reading less than dry one
- Measuring of humidity by psychrometric difference



#### (4) Hygograph (self-recording hygrometer)

-bundles of human hair attached to pointer that rest on drum worked by clock



Ⓓ aim : **determination of air movement :**

#### (1) Kata thermometer :

An instrument used to determine cooling power of air.

-alcoholic filled thermometer with outside bulb & 3 ranges →

65	or	54	or	38
62		51		35

-warm water → raise alcohol to upper mark → put in inlet of house at air stream → count time required for lowering alcoholic column



#### (2) Air Anemometer :

-digital instrument

-give direct reading of air movement

